NOVEMBER, MDCCCLIII.

THE ZOOLOGIST:

A

POPULAR MONTHLY MAGAZINE

OF

NATURAL HISTORY

AND

JOURNAL FOR RECORDING FACTS & ANECDOTES

RELATING TO

QUADRUPEDS, BIRDS, REPTILES, FISHES, ANNELIDES,
INSECTS, WORMS, ZOOPHYTES, &c.

THEIR HABITS, FOOD, RETREATS, OCCASIONAL APPEARANCE,
MIGRATIONS, NESTS AND YOUNG.

No. CXXXIII.

LONDON:
JOHN VAN VOORST, PATERNOSTER ROW.

Price ONE SHILLING.

E. NEWMAN, 9, DEVONSHIRE STREET

NOTICES OF NEW BOOKS.

'*A Naturalist's Rambles on the Devonshire Coast.*' By PHILIP HENRY GOSSE. London: John Van Voorst, Paternoster Row. 1853. *Price* 21*s*.

(Concluded from page 4062).

WE return with pleasure to the coasts of Devonshire, and think our readers will participate in that pleasure, when we place before them the Naturalist, on his hands and knees, gazing into the wondrous rock-pool at Oddicombe.

"I took another look at my pretty little rock-basin at Oddicombe. It is a deep, oval, cup-like cavity, about a yard wide in the longest diameter, and of the same depth, hewn out, as it were, from the solid limestone, with as clean a surface as if a stone-mason had been at work there. It is always, of course, full of water, and except when a heavy sea is rolling in, of brilliant clearness. All round the margin are growing tufts of the common coralline, forming a whitish bushy fringe, reaching from the edge to about six inches down; a few plants of the bladder Fucus are scattered around and above the brim; and the arching fronds of the sweet Laminaria, that I before spoke of, hang down nearly to the bottom, closely resembling, except in their deep brown hue, the hart's-tongue fern that so profusely adorns the sides of our green lanes. Below the coralline level are a few small red sea-weeds, as Rhodymenia palmata; and the dark purple Chondrus crispus growing in fine tufts, reflecting a rich steel-blue iridescence. But all the lower parts of the sides and the bottom are almost quite free from sea-weeds, with the exception of a small Ulva or two, and a few incrusting patches of the coralline base, not yet shot up into branches, but resembling smooth pink lichens. The smooth surface of the rock in these lower parts is quite clean, so that there is nothing to intercept the sight of the Actiniæ that project from the hollows, and spread out their broad circular disks like flat blossoms adhering to the face of the interior. There are many of these, all of the species A. bellis, and all of the dark chocolate variety, streaked with scarlet; and they are fine in the ratio of the depth at which they live: one at the very bottom is fully three inches in diameter.

"There is something exceedingly charming in such a natural vivarium as this. When I go down on my knees upon the rocky margin, and bring my face nearly close to the water, the whole interior is distinctly visible. The various forms and beautiful tints of the sea-weeds, especially the purple flush of the Chondrus, are well worthy of admiration; and I can see the little shrimps and other Crustacea busily swimming from weed to weed, or pursuing their instinctive occupations among the fronds and branches,—an ample forest to them. Tiny fishes of the blenny genus are also hiding under the shadow of the tufts, and occasionally darting out with quivering tail; and one or two brittle stars are deliberately crawling about, by means of their five long and flexible arms, in a manner that seems a ludicrous caricature of a man climbing up by his hands and feet,—only you must suppose an additional arm growing from the top of his head. The variety of their colours, and the singular but always elegant patterns in which they are arranged, render these little star-fishes attractive.

"Such a calm, clear, little well as this, among the rugged rocks, stored with animal and vegetable life, is an object well calculated to attract a poet's fancy. The following description must have been drawn from just such a rock-pool, and most true to Nature it is:—

> 'In hollows of the tide-worn reef,
> Left at low water glistening in the sun,
> Pellucid pools, and rocks in miniature,
> With their small fry of fishes, crusted shells,
> Rich mosses, tree-like sea-weed, sparkling pebbles,
> Enchant the eye, and tempt the eager hand,
> To violate the fairy paradise.' — *Montgomery*."

—P. 54.

It is impossible to turn over the pages of this admirable book without finding abundance of matter that rivets the attention of the true naturalist; and such we hold to be not the mere preserver of the remains of beings that were once endued with life, and blessed with happiness and vigour, but he who marks well the varied phases of the moving creature, while, instinct-directed, it performs those acts with which the maintenance of its own life and the perpetuation of its kind are so indissolubly connected. In endeavouring to seek the best opportunity for prosecuting such studies, for keeping up a continued series of such observations, Mr. Gosse was led to attempt the bringing of animated Nature home to his fire-side, and thus to secure himself against those casualties and difficulties which distance and our changeable climate so frequently interpose between the naturalist and the objects of his research.

"One prominent object that I had in view in coming to the coast, was the prosecution of a cherished scheme for the conservation of marine animals and plants in a living state.

"For several years past I have been paying attention to our native Rotifera, and in the course of this study had kept fresh water in glass vases unchanged from year to year, yet perfectly pure and sweet, and fit for the support of animal life, by means of the aquatic plants, such as Vallisneria, Myriophyllum, Nitella and Chara (but particularly the former two), which were growing in it. Not only did the Infusoria and Rotifera breed and multiply in successiye generations in these unchanged vessels, but Entomostraca, Planariæ, Naides, and other Annelides, and Hydræ, continued their respective races; and the young of our river fishes were able to maintain life for some weeks in an apparently healthy state, though (perhaps from causes unconnected with the purity of the water) I was not able to preserve these long.

"The possibility of similar results being obtained with sea-water had suggested itself to my mind, and the subject of growing the marine Algæ had become a favourite musing, though my residence in London precluded any opportunity of carrying out my project. My notion was, that as plants in a healthy state are known to give out oxygen under the stimulus of light, and to assimilate carbon, and animals, on the other hand, consume oxygen and throw off carbonic acid, the balance between the two might be ascertained by experiment, and thus the great circular course of Nature, the mutual dependence of organic life, be imitated on a small scale.

"My ulterior object in this speculation was two-fold. First, I thought that the presence of the more delicate sea-weeds (the Rhodosperms, or red families especially, many of which are among the most elegant of plants in colour and form), growing in water of crystalline clearness in a large glass vase, would be a desirable ornament in the parlour or drawing-room; and that the attractions of such an object would be enhanced by the presence of the curious and often brilliant-hued animals, such as the rarer shelled Mollusca, the graceful Nudibranchs, and the numerous species of sea Anemones, that are so seldom seen by any one but the professed naturalist.

"But more prominent still was the anticipation that by this plan great facilities would be afforded for the study of marine animals, under circumstances not widely diverse from those of Nature. If the curious forms that stand on the threshold, so to speak, of animal life can be kept in a healthy state, under our eye, in vessels where they can be watched from day to day without being disturbed; and that for a sufficiently prolonged period to allow of the development of the various conditions of their existence, it seemed to me that much insight into the functions and habits of these creatures, into their embryology, metamorphoses, and other peculiarities, might be gained, which otherwise would either remain in obscurity, or be revealed only by the wayward 'fortune of the hour.'

"Nor have these expectations been wholly unrealized. My experiments, though not yet entirely successful, and needing much more attention and time to complete them, have yet established the fact, that the balance can be maintained between the plant and the animal for a considerable period at least, without disturbance of the water; while my vivaria have afforded me the means of many interesting researches, the details of which form the subject of these pages.

"The first thing to be done was to obtain the Algæ in a growing state. As they have no proper roots, but are in general very closely attached to the solid rock, from which they cannot be torn without injury by laceration, I have always used a hammer and chisel to cut away a small portion of the rock itself, having ready a jar of sea-water into which I dropped the fragment with its living burden, exposing it as little as possible to the air. The red sea-weeds I have found most successful: the Fuci and Laminariæ, besides being unwieldy and unattractive, discharge so copious a quantity of mucus as to thicken and vitiate the water. The Ulvæ and Enteromorphæ, on the other hand, are apt to lose their colour, take the appearance of wet silver-paper, or colourless membrane, and presently decay and slough from their attachments. The species that I have found most capable of being preserved in a living state, are Chondrus crispus, the Delesseriæ, and Iridea edulis. The last-named is the very best of all, and next to it is Delesseria sanguinea, for maintaining the purity of the water, while the colours and forms of these render them very beautiful objects in a vase of clear water, particularly when the light (as from a window) is transmitted through their expanded fronds. Many of my friends, both scientific and unscientific, who have seen my vases of growing Algæ at various times during the present year, both at Torquay and at this place, have expressed strong admiration of the beautiful and novel exhibition.

"I have not as yet been able to preserve the water to an indefinite period. Sometimes the experiment has quite failed, the plants decaying and the animals dying almost immediately; but more commonly, the whole have been preserved in health for several weeks. The following are the particulars of the most successful of my efforts.

"On the 3rd of May I put into a deep cylindrical glass jar (a confectioner's show-glass), 10 inches deep by 5½ inches wide, about three pints of sea-water, and some marine plants and animals.

"On the 28th of June following, I examined the contents of the jar as carefully as was practicable without emptying it, or needlessly disturbing them. It had remained uncovered on the tables in my study, or sometimes in the window, ever since, a little water only having once been added merely to supply the loss by evaporation. The water was perfectly clear and pure. A slight floccose yellow deposition had accumulated on the sides of the jar, but there was very little sediment on the bottom. I had taken no note of the plants or animals when I had put them in; but as none of them had died, and none had been either abstracted or added, the following enumeration gives the original as well as then present contents.

"There were at this time in the jar the following Algæ, all in a growing state, and attached to the original fragments of rock: —

"Two tufts of Delesseria sanguinea, each with numerous leaves.

"Two of Rhodymenia jubata, one small, the other a large tuft.

"A small Ptilota plumosa, growing with one of the last-named.

"A Chondrus crispus, with

"An Ulva latissima growing parasitically on one of its fronds.

"These seven plants had supplied for eight weeks the requisite oxygen for the following animals, which were at this time all alive and healthy: —

"Anthea cereus.
Actinia bellis, a large specimen.
    „ bellis, a half-grown one.
    „ anguicoma, large.
    „ anguicoma, small.
    „ nivea.
    „ rosea.
    „ rosea, a small specimen.
    „ Mesembryanthemum, young.
    „ Mesembryanthemum, young, another variety.
Crisia denticulata, a large tuft.
Coryne —— ? young.
Pedicellina Belgica, two numerous colonies.
Membranipora pilosa.
Doris (bilineata?)
Polycera 4-lineata, very small.
Phyllodon lamelligera, about 11 inches long.

A coil of small Annelides.
Several Serpulæ.
Acaridæ.
Entomostraca.
Infusoria.
Grantia nivea. And other smaller zoophytes and sponges, which I could not identify.

"Soon after this examination I went on a journey, and did not return till the 7th of July. The weather had set in very hot: whether this, combined with the closeness of the room, had had any effect, I do not know; but on my return I found the water beginning to be offensive, a sort of scum forming on the surface, and the animals evidently dying. Some were already dead, but most of the others recovered on being removed to fresh sea-water. This result, though it puts an end to my experiments at this time, I do not regard as conclusive against the hypothesis; for of course animals are liable to death under any circumstances, and the corrupting body of one of these in so limited a volume of water would soon prove fatal to others, even though there might be no lack of oxygen for respiration. It is possible that one of the large Actiniæ may have casually died during my absence, the timely removal of which might have averted the consequences to the others; but this is only conjecture. Perhaps there was too large an amount of animal life in proportion to the vegetable; but the maintenance of all these in health and activity for nearly nine weeks seems hardly to agree with such a supposition.

"Should these experiments be perfected, what would hinder our keeping collections of marine animals for observation and study, even in London and other inland cities? Such a degree of success as I have attained would admit of so desirable a consummation, for even in London no great difficulty would be experienced in having a jar of sea-water brought up once in a couple of months. I hope to see the lovely marine Algæ too, that hitherto have been almost unknown except pressed between the leaves of a book, growing in their native health and beauty, and waving their delicate translucent fronds, on the tables of our drawing-rooms and on the shelves of our conservatories.

"It is a curious circumstance that experiments exactly parallel to these, founded on the same principles, have been simultaneously prosecuted with the same results by another gentleman, whose name is well known in the scientific world. Mr. Robert Warington, of Apothecaries' Hall, has now (December, 1852) at his residence in London, a marine aquarium with living Algæ and sea Anemones in a healthy condition. I find, on comparing notes, that Mr. Warington has precedence of me in instituting these experiments; but the particulars that I have above detailed of my own success were fully recorded before I had the slightest knowledge that the thought of such a project had ever crossed the mind of any person but myself."—P. 228.

In continuation of this highly attractive subject, the author gives an Appendix of four pages, in which he recommends the production and introduction of a new chemical compound called *ozone*. We confess we are not prepared to admit the necessity of introducing any artificial chemical element into these vivaria, neither do we believe there is any advantageous result obtained from the so-called aëration of the water, as practised in the beautiful glazed tanks in the Zoological Society's Gardens in the Regent's Park. It is most true that turbidity and great apparent impurity is observable in the water of some of these tanks; but these defects in all probability result from a want of attention to the requirements of Nature. In the first place, it must be admitted that in attempting to imitate a rock-pool by a glazed tank, we abrogate a law of Nature in admitting the light laterally instead of vertically. Secondly, in crowding into a given quantity of water a greater number of living beings than Nature allows, we also abrogate a second law. Water to aquatic, and air to terrestrial animals, are as essential as food; and any stint in the supply interferes with the vitality of the animal. To insure success, it is not sufficient to adjust the scale adroitly and fairly between animal and vegetable life, but the supply of water and of light must be made a matter of nice and careful experiment. By judicious attention to this, we shall achieve more successful and more certain results than by the adoption of any artifice that Nature herself ignores.

It is, however, abundant time for us to close this protracted notice. We are sorely tempted to give still further extracts, but must refer the reader to the book itself, and assuredly will he find that we have only given a fair and impartial sample of a work, which is uniformly excellent, amusing, and instructive. Our objection to the artificial management of the vivaria is rather an objection to a received usage, than to a peculiar hypothesis of the author's.

The most important portions of the work consist of detailed observations on the alternation of generations in the Hydroid polypes and the Medusæ, on the embryogeny and metamorphosis of these and the Polyzoa, and on the singular structure of the thread-cells of the Medusæ and the Actiniadæ. Copious details are given of the habits and economy of many species of the sea Anemones and madrepores, of the

Medusæ and Polyzoan polypes, which were before but little known; as well as of some of the Annelidan, Molluscan and Crustacean classes. Six species of Zoophyta (including a beautiful new madrepore), six of Medusæ, one of Crustacea, and one of Annelida, are described as new; and several of them are figured.

'*The Annals and Magazine of Natural History*,' *No.* 70, *dated October*, 1853. *Price* 2*s.* 6*d.*

This number contains the following papers: —

'On some new Species of Trigonia from the Inferior Oölite of the Cotteswolds, with preliminary Remarks upon that Genus.' By John Lycett, Esq.

'Note on the Artesian Well at Colchester; and Remarks on some of the Microscopic Fossils from the Colchester Chalk.' By John Brown, Esq., F.G.S.

'On the Mechanism of Aquatic Respiration, and on the Structure of the Organs of Breathing in Invertebrate Animals.' By Thomas Williams, M.D. Lond.

'Notes on the Ornithology of Ceylon, collected during an Eight Years' Residence in the Island.' By Edgar Leopold Layard, Esq.

'Remarks on the Lias at Fretherne near Newnham, and Purton near Sharpness, with an account of some new Foraminifera discovered there: and on certain Pleistocene Deposits in the Vale of Gloucester.' By the Rev. P. B. Brodie, M.A., F.G.S.

Proceedings of Societies: — Zoological—Royal.

Miscellaneous: — On the Monstrosity of a Rose; by J. T. Arlidge, A.B. On the Change of Colour in a Chamæleon (*Chamæleo vulgaris*); by H. N. Turner, jun. Notes on a new Species of Artamus; by Dr. Nicholson. The second and third of these are extracted from the 'Proceedings of the Zoological Society' for 1851!

'*Transactions of the Linnean Society of London.*' Vol. XXI. Part 1, *price* £1 1*s.;* and Part 2, *price* £1 10*s.*

Part I. comprises 84 pages of text and 8 plates, in 4to.; and contains the following papers: —

'On the Genus Atamisquea, belonging to the Family of the Capparidaceæ.' By John Miers, Esq., F.R.S., F.L.S., &c.

'On the Development of the Ovule in Orchis Morio, *Linn.*' By Arthur Henfrey, Esq., F.L.S., &c.

'On the Australian Species of the Coleopterous Genus Bolboceras, *Kirby.*' By J. O. Westwood, Esq., F.L.S., &c.

'Descriptions of some new or imperfectly known Species of Bolboceras, *Kirby.*' By J. O. Westwood, Esq., F.L.S., &c.

'Experiments and Observations on the Poisons of Animals of the Order Araneidea.' By John Blackwall, Esq., F.L.S., &c.

'On the Œconomy of a new Species of Saw-fly.' By John Curtis, Esq., F.L.S., &c.

'On the Family of Triuriaceæ.' By John Miers, Esq., F.R.S., F.L.S., &c.

'The Anatomy and Development of certain Chalcididæ and Ichneumonidæ, compared with their special Œconomy and Instincts: with Descriptions of a new Genus and Species of Bee Parasites.' By George Newport, Esq., F.R.S., F.L.S., &c.

'Further Observations on the Genus Anthophorabia.' By George Newport, Esq., F.R.S., F.L.S., &c.

Part II., comprising 100 pages of text and 11 plates in 4to., has the following papers: —

'The Anatomy and Development of certain Chalcididæ and Ichneumonidæ.' By George Newport, Esq., F.R.S., F.L.S., &c.

'Further Observations on the Habits of Monodontomerus; with some Account of a new Acarus, Heteropus ventricosus, a Parasite in the Nests of Anthophora retusa.' By George Newport, Esq., F.R.S., F.L.S., &c.

'On the Development of the Spores and Elaters of Marchantia polymorpha.' By Arthur Henfrey, Esq., F.R.S., F.L.S., &c.

'The Ternstrœmiaceous Plants of Hong Kong.' By Capt. Champion, 95th Regiment. Communicated by the President.

'On the Development of Ferns and their Spores.' By Arthur Henfrey, Esq., F.R.S., F.L.S., &c.

'On two Genera of Plants from Chile.' By John Miers, Esq., F.R.S., F.L.S., &c.

'On two new Genera of Fungi.' By the Rev. M. J. Berkeley, M.A., F.L.S., &c.

'On the Habits and Structure of the Great Bustard, (*Otis tarda* of Linnæus).' By Wm. Yarrell, Esq., V.P. and Treas. Linn. Soc., &c.

'On the Ocelli in the Genus Anthophorabia.' By George Newport, Esq., F.R.S., F.L.S., &c.

'The Natural History, Anatomy, and Development of Meloë, (continued).' By George Newport, Esq., F.R.S., F.L.S., &c.

It is impossible to give anything like an abstract of these important papers in the limited space to which we are confined. Should however an opportunity occur hereafter, we purpose extracting entire Mr. Newport's record of the discovery of Heteropus ventricosus, an Acarideous parasite on Monodontomerus, itself a parasite on the well known bee, Anthophora retusa.

'*Shells and their Inhabitants. The Genera of Recent Mollusca arranged according to their Organization.*' By HENRY and ARTHUR ADAMS. Part VI. *Demy* 8*vo*., *with the plates plain, price* 2*s*. 6*d*.; *Royal* 8*vo*., *with the Animals coloured, price* 5*s*. London: Van Voorst. October, 1853.

THIS part contains 42 pages of text and 4 plates: the genera described are enumerated below; they all belong to the Gasteropoda. Zidona, *Adams;* Callipara, *Gray;* Cymbiola, *Swainson;* Scaphella, *Swainson;* Voluta, *Linneus;* Harpula, *Swainson;* Fulguracia, *Schumacher*; Lyria, *Gray;* Volutilithes, *Swainson;* Mitra, *Lamarck;* Volutomitra, *Gray;* Strigatella, *Swainson;* Turricula, *Klein;* Cylindra, *Schumacher;* Imbricaria, *Schumacher;* Columbella, *Lamarck;* Pyrene, *Bolten;* Amycla, *Adams;* Engina, *Gray;* Erato, *Risso;* Marginella, *Lamarck;* Perricula, *Schumacher.*

'*The Powers of the Creator displayed in the Creation; or Observations on Life amidst the various Forms of the humbler Tribes of Animated Nature; with Practical Comments and Illustrations.*' By SIR JOHN GRAHAM DALYELL, Knight and Bart. In two volumes. Vol. II., containing 327 pages of text and 46 plates. London: John Van Voorst, Paternoster Row. 1853. *Price* £4 4*s*.

THE first volume of this work is well known: before the publication of the second, the amiable and accomplished author had paid the debt of Nature. The Preface, by that eminent naturalist and philosopher, Dr. Fleming, so fully explains the circumstances of the case, and is in itself so interesting, that we give it entire.

"During the time in which the first volume of this work, published in 1851, was passing through the press, its estimable author was in a very delicate state of health. So reduced, indeed, was he by a lingering illness, that he felt himself unequal to the task of compiling an Analytical Index, according to the plan which he had followed in the two volumes on 'Rare and Remarkable Animals of Scotland;' and a few weeks after the publication of the volume, his disease terminated fatally.

"Sir John Dalyell had contemplated proceeding immediately with the preparation of the second volume, if his life had been spared; and towards the accomplishment of his object he had, to some extent, arranged his notes of descriptions of species, intending to correct and transcribe the whole for the press. Several plates had likewise been executed, and many drawings were in some measure assorted as materials ready to be placed in the hands of the engraver.

"In this state of things it was considered by his sister, who always lived with him, as a duty, to make an effort and save for the public benefit a large amount of valuable information, the result of the continuous labour, through many years, of an acute, patient, and intelligent observer. This zeal to promote the author's fame, and advance at the same time the interest of science, was naturally to be looked for from the individual referred to in the second volume of 'Rare and Remarkable Animals of Scotland' (p. 99), where, in reference to the Cristatella, he says, 'I am indebted to the sedulous care of an affectionate relative, the companion of all my excursions, the encourager of all my exertions, in so tedious, laborious, and difficult a work, for the finest of any—that exhibited to the British Association, taken by herself from the garden pond at Binns House, in Linlithgowshire.' Another passage, dictated by the same grateful considerations, occurs in the same volume (p. 124), under Plumatella repens. 'Of these an admirable example occurred near a ruinous mansion called Fenton Tower, in the county Haddington, about twenty-one miles east of Edinburgh, for which I was indebted to that same affectionate companion of my excursions already noted, who takes the liveliest interest in all my pursuits, and who values the beauties of Nature as demonstrations of the Divine Essence vouchsafed to the gaze of admiring mankind.'

"When this affectionate relative had somewhat recovered from the bereavement which deprived her of a valued companion, she resolved to undertake the task which he had contemplated.

"Difficulties, however, of a formidable kind at once presented themselves. The state of the manuscript was such, that independent of the almost illegible character, which the intelligent printers of the former volume could alone decypher, there were so many erasures and changes of nomenclature, as to render much caution requisite in judging of the latest views intended to be expressed. Many of the references to the plates, in consequence of the numerous alterations which had taken place in the text, required to be corrected. The unfinished plates, and the figures which had not been engraved, stood in need of assortment, and a careful revision. Much of this indispensable labour she only could perform, and here her efforts were above all praise.

"But there were portions of the task in which some assistance was needed. This Sir John Dalyell foresaw, should the work prove a posthumous one, and had expressed to his relative a hope that I might, perhaps, endeavour to give her the requisite aid; especially as I had for many years previous to the publication of the 'Rare and Remarkable Animals,' urged upon him the propriety of giving to the world those observations, in making of which he had expended so much successful labour. In proof that such efforts had repeatedly been made to rescue important results from private obscurity, and render them available to naturalists in general, the following note which accompanied the presentation of the first volume of that work may here be inserted.

"'My Dear Professor,

"'Have the goodness to accept a copy of my humble commentary on the works of Providence.

"'Though endowed with my own share of perseverance and resolution, I confess that the iniquitous obstructions I suffered in its progress, had nearly compelled me to abandon the prospect of completion.

"'But your kind indulgence always encouraged me to advance; therefore I may say the existence of my work is mainly owing to you.

"'Believe me ever yours, with infinite regard,

"'JOHN GRAHAM DALYELL.'

"'14, Great King Street, August 21, 1847.'

"In these circumstances, I willingly furnished the little aid in my power towards the completion of the volume, interfering, however, in the smallest possible degree with the style, the nomenclature, and the materials employed. The publication, being a posthumous work, will of course be regarded with all the tenderness and generosity usually displayed on such occasions; while the numerous highly interesting and original observations will be read with delight and gratitude by all philosophical naturalists.

"As several plates in a finished state have been found in the author's repositories, together with descriptions of their contents, which are considered by his relative worthy of publication, it is intended to form these into a Supplement, to contain, at the same time, an Analytical Index of the two volumes, with a Biographical Sketch and Portrait of the Author."

The present volume contains the following subjects: —

Chapter 1. — The Leech. Hirudo muricata, vittata, anceps, campanulata, octo-oculata, sanguisuga, medicinalis, complanata, stagnalis, tessellata, vitrina, flava. Peculiarities of the leech.

Chapter 2. — Vermes. Gordius fragilis, maximus, Tænia, minor, minor-viridis, Guineensis, albicans, gracilis, albus, aquaticus, spinifer, viridis-spinifer, fragilis-spinifer, fasciatus-spinifer, simplex seu integer, integer-fuscus. Remarks. Gordius Anguis; Vermicellus crassus, rubens, lineatus, Coluber, variegatus; Ascaris Flustræ, Gadi, Leonis.

Chapter 3.—Planariæ. Planaria cornuta, corniculata, ellipsis, flexilis, maculata (atoma?), hausteum, Hebes, lactea, fodinæ, Arethusa, variegata, alba, gracilis, exigua, Algæ, falcata, stagni, fœcunda, Flustræ, vorax, Graminea, cuneus, prasina, nigra, serpentina, fusca.

Chapter 4.—Nais lacustris, proboscidea; Lumbricus citratus, maximus, maximus var., capitatus, littoralis, teres, hirsutus.

Chapter 5. — Nereis teres, hirsuta, lineata, bullata, parva, Aries, remes, ellipsis, fulgens, foliata, contorta, Monoceros, punctata; Spio seticornis, celata.

Chapter 6. — Aphrodita cirrhosa, squamata, varians, velox, arcta, aculeata.

Chapter 7.—Sabella alveolaria, Belgica.

Chapter 8.—Terebella littoralis, figulus, tuberculata, conchilega, maculata, tetrix, Pecten, Ostreæ.

Chapter 9.—Amphitrite ventilabrum, bombyx, floscula. Miscellaneous: — Fabricia, Amphitrite Luna, Filipora filograna.

Chapter 10.—Miscellaneous. Priapulus caudatus, Clymene borealis, Sophonostoma gelatinosa, Pherusa Mulleri, Nereis hirsuta, pectinata, Phasma, Octodactylus inhærens, Sphærula, Animalcula, Melicerta ringens, Carbasaria fimbriata, Animalculum cruciatum, Cercaria.

Chapter 11.—Gasteropodes. Aplysia depilans, Tritonia Hombergii, cervina, pinnatifida, punctata, divaricata, conifera, Doris verrucosa, Argo, nodosa, cristata, clavigera, Eolis plumata, racemosa, minor, deaurata, viridis, sanguifer, conspersa, inequalis, Monoceros, tenax, Hystrix, purpurea, papillosa, ventilabrum; Limapontia. The Nautilini.

A great number of these objects are represented in the plates, which are neatly and carefully executed. We regret to observe the price at which the volume is issued, since its usefulness, and therefore its value as a contribution to Natural History, is thus greatly diminished. The letter-press, as well as the plates, would have been more agreeable to the student in an 8vo form, and by judicious economy might have been produced at less than a third of the present price. Very high prices for books always cut both ways: the buyer and seller suffer equally, so that it is politic on all accounts to eschew them. If the expense of getting up the book be urged as a plea for its price, the plea is untenable, because the expensive getting up was needless.

Migratory Birds in the Isle of Wight.—The following are the dates of the arrival of the summer birds of passage, so far as they have been observed at Bembridge during the last four years:—

	1850.	1851.	1852.	1853.
Chiff-chaff	March 29	March 24	March 31	March 30
Wheatear	April 4	——	April 4	30
Yellow Wagtail	——	——	12	——
Wryneck	——	——	13	——
Blackcap	March 31*	April 16	13	——
Redstart	April 7	——	8	April 19
Willow Wren	11	April 13	13	7
Swallow	13	11	9	6
Sand Martin	18	15	15	7
Cuckoo	——	16	14	18
Whitethroat	——	18	——	——
House Martin	April 20	15	April 21	April 15
Nightingale	8	13	14	15
Swift	May 3	——	——	May 14
Fly-catcher	5	——	——	——

—*A. G. More; Bembridge, September* 10, 1853.

Occurrence of Montagu's Harrier (Circus cineraceus) *in Woolwich Marshes.*—I have a fine old female of Montagu's harrier, that was shot in Woolwich Marshes on the 16th of August last.—*James Green, Naturalist;* 1, *East Road, City Road, October* 11, 1853.

---

* Only a solitary individual was seen at this unusually early date: no others made their appearance until a fortnight later.

Correction of an Error in a Note on the Grasshopper Warbler.—Permit me to rectify an error which has crept into my "Note on the Grasshopper Warbler" (Zool. 4072). Instead of "they visit this country in far *greater* numbers than either the reed or sedge warblers," it should read "in far *less* numbers." — *H. Stevenson; Norwich, October* 6, 1853.

Note on the Nesting of the Reed-wren, (Salicaria arundinacea). — Perhaps the following account of the nesting of the reed-wren may be of interest, as showing the remarkable indifference of the parent bird to the handling of, and the rude substitution of other matters for, her eggs. When an Eton boy I had a certain love for Ornithology; and as every spring came round, I indulged my passion for birds'-nesting by rambling over all the adjacent country in search of hidden treasures. Now, as the school numbered between 700 and 800 boys, it may readily be supposed that mine were by no means the only eyes which were prying into every bush, hedge-bank and copse; accordingly, no sooner was an egg laid but it was pretty certain of discovery, and I have since often wondered how any birds ever reared their young within three or four miles of Eton. So inevitable seemed the discovery of every nest, than when we found a newly finished nest containing but one egg, it was never deemed prudent to leave that egg, in hopes of a larger number another day; the solitary egg was immediately seized, on the principle that "a bird in the hand is worth two in the bush." Now all down the river were certain aits, covered with osiers, and alders, and other bushes and low trees, and flanked with many a goodly bed of rushes and reeds; in these the reed-wrens loved to make their nests. There was also a small coppice adjoining one of the back streams of old father Thames, within a mile of the College, every bush of which I seem now as distinctly to recollect as at that time, when I was a daily visitant there: here I would find four or five nests of the reed-wren, close together, — long purse-like nests; and these were the first nests of that species which I had ever seen, accordingly to me they were a very great treasure. And when taking from one nest one egg, from another two, from another three, and from a fourth a single one again, I was not a little sorrowful to think, that could these four nests be left unmolested for a few days, my prize would be much greater than now: however, prudence overcame greediness, and the eggs were taken. As a forlorn hope, however, and without much idea of the plan succeeding, I picked up seven or eight little gravel-stones, of about the size of the eggs, and for every egg that I had taken, deposited a stone at the bottom of the nest. What was my delight, when, returning to the same spot the next morning, I found another egg laid in every nest! These were withdrawn, and other stones substituted for them: and now, every morning, as soon as our doors were unlocked, I might be seen bending my steps to my favourite coppice, quite alone, lest another should forestall me of my treasure, and, with small round stones in my pocket enough to have filled the nests of fifty reed-wrens, did so many unhappy birds choose that unlucky locality for their nursery. This plan of substituting a stone for an egg answered so completely, in the case of the reed-wren, that I never knew it to fail, or found the nest deserted before the full complement of eggs was laid; and yet, in some cases, from a lack of appropriate stones to be found in those muddy river-banks, I have been obliged to deposit stones of neither the shape, the size, nor the colour of the original egg. It may be supposed, that under the above circumstances, such signal success with the reed-wren made me try the same plan with other birds, but here I as invariably failed: wherefore I conclude that the singularly deep nest of the reed-wren prevented the parent bird from seeing the deception that had been practised upon her, which the more shallow nests of other birds would enable them readily to perceive. Often with my boat moored to one of the reedy aits of the beautiful river, did I watch for a considerable time the reed-wren sitting on her nest in a gale of wind; now bowed down nearly to the water's edge, now springing back, swinging to and fro, driven here and there, as a sudden gust seized the reeds to which the nest was suspended, or a lull left them time to regain their former position : nothing seemed to disconcert her, or to come amiss, and though often brought within a foot of the stream, and the nest half inverted, never did I see it touch the water, or any likelihood of real danger occur.—*Alfred Charles Smith; Yatesbury Rectory, Calne, October* 10, 1853.

Occurrence of the Nut-cracker (Nucifraga Caryocatactes) *at Yarmouth.*—I have a fine specimen of the nutcracker, which was shot by a fisherman, off Yarmouth, on the 7th of this month, (October, 1853): it is in a beautiful state of preservation.—*James Green; 1, East Road, City Road, October,* 1853.

[This bird was brought to me in the flesh.—*E. N.*]

Note on the occurrence in Sweden of Pluvianus Ægyptius. — I have lately seen a specimen of this bird, which I am assured was obtained in Sweden about four years since, by a gentleman from England who was shooting in that country. It is said to have been killed in the summer season, and to have been obtained not very far from the city of Stockholm. This statement is by no means so full as might be desired, but I think it worth recording, as I believe it to be correct, my informant being a party on whom I think reliance may be placed. The specimen is an adult bird, in full plumage. I believe this bird has not previously been recorded as having been obtained in Europe, its native country being Northern Africa, where it is found as far West as Senegal, and as far East as Egypt and Nubia, being a common species on the banks of the Nile; on which account, perhaps, it has been supposed to be the bird that feeds upon the insects which settle upon the mouth of the crocodile, and which acts as a friendly monitor to the gigantic reptile on the approach of danger. Some travellers, however, state that this office is performed by the spur-winged plover of Egypt (*Hoplopterus Persicus*), and possibly both birds may have the same habit in this respect. The Pluvianus Ægyptius is the only known species of its genus, and appears to hold a position intermediate between the coursers and the pratincoles, and also to be allied to some of the types of plovers. One peculiarity of the plumage of the bird is very curious, and unlike anything I know in the plumage of any other bird, namely, a tuft of elongated black feathers, which, if they grew from the head, would form a pensile crest, but which, instead of being situated in that locality, spring from between the shoulders, and reach down the centre of the back, between the wings, for two-thirds or more of the length of the bird's body. Trusting that ornithological observers will look out for other European examples of this interesting species, I take the liberty of calling the attention of the readers of the 'Zoologist' to the above circumstances connected with it.—*J. H. Gurney; Easton, Norfolk, September* 22, 1853.

Occurrence of the Red-necked Phalarope at Rottingdean. — On Tuesday last, the 4th of this month, a red-necked phalarope was killed here, it having been observed in the morning swimming with the ducks on the pond in the heart of the village. The bird had already so completely attained its winter plumage, that the head, neck, and breast, from the whiteness of those parts, resemble those of Bewick's figure of the gray phalarope, being totally unlike, in that respect, to Yarrell's red-necked, and having merely a faint tinge of colour from the tips of the feathers. It may be added, that Yarrell's representation of the leg and foot of the phalarope does not exhibit the peculiarity of the latter member, which, in the specimen above referred to, is very distinctly *half-webbed.—Arthur Hussey; Rottingdean, October* 8, 1853.

Note on the Spawning of Frogs and Toads.—Whilst staying here in April last, I noticed the following curious circumstance. I was walking along the bank of a small fish-pond in the garden, which was swarming with frogs and toads busily engaged in spawning, and was astonished to notice great numbers of them promiscuously *in copulâ.* In every instance but one of those that came under my notice, the union was between the male frog and the female toad, but in that one instance it was *vice versâ.* I have mentioned the circumstance to my friend Mr. Wolley, and other naturalists, who have all agreed with me in considering it a singular fact, and worthy of record. I have frequently watched these reptiles during the spawning season, but never before noticed a similar occurrence.—*H. Harpur Crewe; Rossway, near Great Berkhampstead, Herts, September* 15, 1853.

Note on Toads devouring Hive Bees.—I have read the account related at the last meeting of the Entomological Society, of a nasty toad being caught on the alighting-board of a hive of bees, and devouring them wholesale. Coming from so authenticated a source, one cannot at all doubt the truth of it; but I will venture to say, that the hive in question must have been placed in a most awkward situation, against a bank, or touching some rough wall. There is not a more unlikely reptile in existence to be found crawling or *climbing;* no careful bee-master allows his hives to be placed so that such a clumsy creature as a toad, or even a hedgehog, could effect a lodgment at the entrance, for neither of these animals could walk up the post or props of the bee-hives or boxes. The story reminds me of a great man, of rather weak intellect, who was travelling on horseback in hot weather, and said to his friend,—"How these small flies annoy me by getting into my mouth and throat! Do you find it so?" "No," said his friend; "I always keep my mouth shut." "Very true: so must I in future." The toad and the hedgehog devour insects of various sorts. I suspect that the hedgehog attacks wild bees' nests sometimes, as I saw one last summer and traced his course to a moss-carders' nest, which I had examined the day before, and the next day the little comb was gone, and the bees had deserted. A hedgehog got by chance into a stone trough at my house: the trough was only about 10 inches deep, and yet the animal could not climb up to get out, and was caught there. I believe a toad would suffer in this way also: I never even saw a toad on the top of a low wall.—*H. W. Newman; New House, Stroud, October* 10, 1853.

Description of a Specimen of the Lesser Forked Beard (Raniceps trifurcatus); *with an Announcement of the Occurrence of that and two other rare British Fishes at Weymouth.* By Wm. Thompson, Esq.

In announcing the occurrence of that very rare fish, the lesser forked beard (*Raniceps trifurcatus,* Flem., *R. Jago,* Flem. and Cuvier), I have thought it advisable (bearing in mind the rarity of examining specimens fresh) to give a very full description, as taken by myself, immediately after the fish was caught.

The extreme length is 9½ inches. The head is depressed, much flattened, and very broad. The under jaw 2 inches in width, much shorter than the upper, and curved upwards. The mouth very wide, round, and when opened measuring 1¾ inch in diameter. Lips large, fleshy, the edges brown, the folds of the lips quite white, and in the upper jaw very dilatable. A small conical barbule depends from the under jaw. The teeth in the lower jaw are sharp, bent backwards, and placed in two pretty regular rows. The upper jaw is similarly armed, but the rows of teeth are irregularly placed. On the palate there is a prominence, kidney-shaped, and covered with minute teeth. The tongue is very broad, the actual fleshy portion is very small. The eyes are half an inch in diameter, closely approximating, placed nearly on the top of the head, and three quarters of an inch apart, the pupils are black and the irides yellow. The nostrils are placed immediately in front of each eye, and not at the end of the muzzle; they appear to open backwards, and to be closable at pleasure with loose skin; the orifices are very small. The anterior part of the body is large, depressed, and tumid; its greatest size is at a point 1¾ inch from the snout, where it is 5 inches in circumference. The dorsal profile commences to rise immediately in front of the first dorsal, and so abruptly as to give that part of the body an arched appearance; almost immediately after attaining its highest elevation, it descends gradually to the tail. The body becomes compressed from the first dorsal to the vent, and from the vent to the tail so much as to be in fact almost riband-shaped. The resemblance of this fish to a tadpole strikes the most careless observer; and seldom have I seen a name more appropriately bestowed.

The fin-ray formula is as follows: —

1st D. 3: 2nd D. 62?: P. 23: V. 6: A. 59?: C. 36?

The second dorsal, anal, and caudal fins are given on the authority of Pennant, as I could not count their rays: I believe them to be accurate, and quote them with the less reluctance, as I find that in the other fin-rays that author is correct. The first dorsal is triangular and very small, and is composed of three rays, the longest of which measures a quarter of an inch, which is double the length of the other two: this fin commences at 3 inches from the snout. The second dorsal commences half an inch behind the first dorsal, and ends almost close to the base of the caudal rays: it is nearly half an inch broad, and equal throughout its length; the tips of the rays are free, and much deeper than the fin. The anal fin commences behind the vent, and about 4¼ inches from the snout, and ends in a direct line with the posterior margin of the dorsal, and, like those of the dorsal, the rays are produced beyond the membrane of the fin, and end in free points. The caudal is wedge-shaped, and not wide: the extremity is rounded. The pectorals are not very wide, rather wedge-shaped, of moderate length, and the rays have the same free character as those in the dorsal and anal fins. The ventrals are small: the two anterior rays are free and detached; the first ray measures 1 inch, and the second 1½ inch: both these free rays are white. The base of the dorsal, for some little distance up the fin, is covered with scales.

The branchiæ are four in number; the branchial rays are five: the branchial opening is very large. I could not detect the lateral line. I noticed particularly the tubercles above the pectoral fins; they are ten in number, and placed in a row. They appear to me to be quite independent of the skin, and, in fact, to be the heads of detached bones imbedded in the muscles of the body. When the fish was quite fresh and moist, these tubercles were not discernable; as it became dry and the skin tightened, the tubercles became apparent both to sight and touch; and on my thoroughly moistening the fish, they again disappeared.

The colour of the fish is a very dark brown; the fins darker still, with the exception of the two long rays of the pectorals, which are white. The scales are small, and easily detached, when the skin appears white underneath. The belly and under part, from the snout to the vent, is of a paler brown.

The ova were contained in two small lobes, each about an inch in length, and the same in circumference in the largest portion; that end which was nearest the tail very sharp and lengthened out. The stomach was very large and quite empty: the swimming-bladder exceedingly large, as in all the Gadidæ.

This fish was caught on the 8th of October, 1853, at a spot in Weymouth Bay, about five miles from shore, on the Wreck of the Abergavenny. It was caught on a whiting-line: the hook was baited with a lug-worm (*Arenicola piscatorum*) for whiting pout. No doubt this fish is equally ravenous with the rest of the cod family. From being badly hooked, I could not keep it alive, and I was thus disappointed of sending it to the Zoological Society's vivarium, for which it was obtained.

I consider my experiments on the tubercles quite conclusive as to the identity of Dr. Fleming's supposed two species, Raniceps trifurcatus and R. Jago.

The Blue-striped Wrasse, (*Labrus variegatus*). Three specimens of this beautiful fish have been brought me; they are in the vivarium of the Zoological Society.

The Red Wrasse, (*Labrus carneus*). A specimen was brought me alive on the 10th of October, and will be forwarded to the Zoological Society, where it may be seen. As this fish differs from the descriptions by authors, I will send my own description for the next month's 'Zoologist.'

William Thompson.

Weymouth, October 12, 1853.

Further Note on Tench and Pike.—In the September number (Zool. 4020) I gave an account of a pike attacking a tench, an occurrence which is considered very unusual, from the disinclination which all other fish are said to have to destroy the tench, the presumed healing qualities of which are supposed by many persons to be the cause of this immunity. Since my former communication I have had additional evidence of the fallacy of this prevalent opinion; for in the pit alluded to, a few days after the occurrence of the event previously described, I saw another tench undergoing exactly the same process, being carried about in the jaws of a pike, and too large for the latter to swallow: and I afterwards found a dead tench floating on the water, which had evidently been killed by the bite of a pike. I have since had the pit dragged, and out of ten or twelve brace of rather small tench, of the size an 8-℔ or 10-℔ pike could swallow, I was only able to catch three or four, all the rest having apparently been destroyed by the pike, of which I took out several, some of them weighing 8 and 10 ℔s. each. I therefore feel quite satisfied that any supposed immunity from the attacks of other fishes with which the tench may be favoured on account of its medicinal qualities, is totally unfounded, as well as that, for any other reason, it is neglected by the pike when in pursuit of food.—*W. H. Slaney; Hatton Hall, October* 6, 1853.

Note on a Variety of the Plaice (Platessa vulgaris).—A piebald variety of this fish was lately caught at Lossiemouth, in the Moray Firth, and sent to me as something worthy of notice. There was nothing peculiar about it either as to its size or shape, the length being 18 inches and the breadth 11: the upper or eye side also had the usual tints of the species. All that was remarkable about the fish lay in the colour of the under side, more than one half of it being of the same olivaceous brown as the upper side, and with the same proportion of orange spots, placed chiefly opposite those on the upper or eye side. The under lateral line was white throughout its whole length. The anterior or head end of the under side was of the usual white colour, but had on it three orange spots encircled by olivaceous brown, similar to the colour of the upper side. The brown colour extended farther upon the abdominal part of the under side than it did upon the dorsal fin. The line of demarcation between the white and the brown was oblique and waved, but well defined, having little or no shading. The piebald under side of this fish shows that light could have had little influence in forming the colouring matter of the skin.—*G. Gordon ; Birnie by Elgin, August*, 1853.

Catalogue of Marine Mollusca inhabiting the Dublin Coast.

By WILLIAM WHITE WALPOLE, Esq.

I HAVE frequently thought that if a series of local lists of the Mollusca of the British seas were published, they would prove quite as interesting and useful for comparison with each other as those of the land and fresh-water species. I have therefore the pleasure of forwarding to you a list of such as I have taken on this interesting coast; —interesting, I say, because there is perhaps no part of the British Islands which can present such a naturally favourable situation for the study of marine Conchology; since it possesses many extensive strands, strewed with numerous rarities after an easterly gale, besides rich dredging-grounds, such as Dalkey Sound, and the bays of Dublin, Killiney, and Bray. Added to which, our trawlers, who profitably fish the deeper waters off this coast, occasionally bring in species which could not otherwise be obtained except by an expensive course of dredging, which but few conchologists can adopt. I need hardly say that the nomenclature is according to Messrs. Forbes and Hanley's truly valuable work on our Mollusca: those which I have not been able to procure alive, are marked with an asterisk (*).

Teredo megotara. Killiney Strand, after an easterly gale, December, 1849. The wood in which they occurred was pine.

*Pholas candidus. Merrion Strand.

* „ crispata. Malahide and Portmarnock Strands.

* „ dactylus. Merrion Strand.

Xylophaga dorsalis. Trawled in Skerry Bay: I have observed it also in old trawl-beams.

Saxicava arctica. General.

„ rugosa. Common.

Mya arenaria and truncata. Both common, but difficult to be obtained in fine condition.

Corbula nucleus. General.

„ rosea. Very rare; a few have been taken off this coast.

Sphænia Binghami. Rare; inhabiting the thick valves of oyster-shells, Dalkey Sound.

Lyonsia Norvegica. Dalkey Sound and Killiney Bay, in about 10 fathoms.

Thracia convexa. Very rare: trawled off Skerry Bay.

„ distorta. Rare; Dalkey Sound.

„ phaseolina. The strands of Merrion, Salthill, &c.; Dalkey Sound, in about 9 fathoms.

„ villosiuscula. Dalkey Sound, at the same depth.

Cochlodesma prætenue. Very rare; Dalkey Sound, Killiney Bay.

Solen ensis. Common.

„ „ var. *magna*. Occasionally with the common form.

„ marginatus. Rare, but obtained on all our sandy beaches.

„ siliqua. Common.

„ pellucidus. Occasionally driven ashore, but may be taken fine, and in some numbers, with the dredge, in 12 fathoms, Killiney Bay.

Solecurtus coarctatus. Rare; Skerry Bay.

Ceratisolen legumen. Not common, but may be found on all our sandy beaches.

Psammobia Ferroensis. General.

„ tellinella. Dalkey Sound and Killiney Bay.

Tellina crassa. Scarce; Dalkey Sound.

„ donacina. Same locality as the preceding species.

„ fabula. General.

„ tenuis. Common.

„ solidula. Common.

„ incarnata. Rare; Blackrock, Salthill, and Portmarnock Strands.

„ pygmæa. Very rare; Dalkey Sound.

Syndosmya alba and prismatica. Both very fine from the stomachs of fish.

Scrobicularia piperata. Inhabiting the mud-deposits at the mouth of the Liffy.

Donax anatinus. General.

Mactra elliptica. Dalkey Sound, and also obtained from the stomachs of fish.

„ solidula. Common.

„ stultorum. Common.

„ „ var. *cinerea*. Portmarnock Strand.

„ subtruncata. Merrion Strand; I have also observed it on the South Bull.

„ truncata. Rare; in the same localities.

Lutraria elliptica. General.

Tapes decussata. General.

„ pullastra. General.

„ „ var. *perforans*. Inhabiting the roots of Laminaria.

„ virginea. Dalkey Sound and Killiney Bay.

*Cytherea Chione. An odd valve in Dalkey Sound.

Venus casina. Off Dalkey Island.

„ fasciata. General.

„ striatula. Common.

„ „ var. *gallica*. Off Dublin Bay, Dalkey Sound, &c.

„ ovata. General.

Artemis exoleta and lincta. Very fine in Dalkey Sound, and may be found on all the strands after gales.

Lucinopsis undata. The strands of Portmarnock, North and South Bull, Merrion, &c.

Cyprina Islandica. General.

Circe minima. Very rare; Dalkey Sound.

Astarte elliptica. Very rare; Dalkey Sound.

„ sulcata, and var. *Scotica*. Scarce; Dalkey Sound.

* „ triangularis. Scarce; Dalkey Sound.

Isocardia cor. Off Skerry Bay.

Cardium echinatum. General.

„ edule. Common.

„ fasciatum. Frequent; Dalkey Sound and Killiney Bay.

„ nodosum. Ditto; ditto.

„ Suecicum. Very rare; off Dublin Bay.

„ Norvegicum. General.

Lucina borealis. Fine, and frequent.

„ spinifera. Rare; off Dublin Bay.

„ flexuosa. Rare; Portmarnock, Merrion, and other strands, and Dalkey Sound.

*Montacuta bidentata and *ferruginosa. Portmarnock Strand.

Kellia suborbicularis. Dalkey Sound, &c.

*Lepton squamosum. Dalkey Sound, &c.

Mytilus edulis. Common.

„ „ var. *pellucidus*. Occasionally.

Modiola modiolus. Common.

Crenella discors. Dalkey Sound.

„ marmorata. Dalkey Sound, Killiney Bay; and I have observed it frequently at low water.

Nucula decussata. Rare; off Dublin Bay.

Nucula nitida. Dalkey Sound, Killiney Bay, &c.

„ nucleus. General.

„ radiata. Rare; Dalkey Sound.

„ tenuis. Ditto.

Leda caudata. Very rare; Dalkey Sound and Killiney Bay.

Pectunculus glycimeris. Rare; off Dublin Bay and in Dalkey Sound.

Lima hians. Very rare; Killiney Bay.

„ Loscombii. Rare; Dalkey Sound.

Pecten maximus. Dublin, Killiney, and Bray; also in Dalkey Sound.

„ niveus. Very rare; Kingstown, Dublin Bay.

„ opercularis. General.

„ pusio. Off Dalkey Island.

„ varius. Dublin Bay, Dalkey Sound, &c.

„ tigrinus. Bays of Killiney and Bray, and Dalkey Sound.

Ostrea edulis. Many fine oyster-beds are dispersed throughout our bays. I have found good pearls in those taken in Dalkey Sound.

Anomia aculeata. Dalkey Sound and Killiney.

„ ephippium. Rare; off Dublin Bay.

„ „ var. *squamula*. Found in the interior of Isocardia cor.

„ striata. Very rare; Dalkey Sound.

„ patelliformis. General.

Chiton asellus. Killiney Bay and Dalkey Sound.

„ fascicularis. Scarce; Killiney, &c.

„ cinereus. General.

„ lævis. Rare; Dalkey Sound.

„ ruber. Rare; Dalkey Sound and Killiney.

„ marmoreus? Salthill.

Patella vulgata. Common.

„ athletica. Killiney.

„ pellucida. Killiney, in the roots of Laminaria.

„ „ var *lævis*. Ditto.

Acmæa testudinalis. Salthill.

„ virginea. Dublin and Killiney Bays, and Dalkey Sound.

Dentalium entalis. General.

* „ Tarentinum. Rare; Dublin Bay and Dalkey Sound.

Pileopsis Hungaricus. Skerry Bay, Dalkey Sound, and off Bray.

Fissurella reticulata. Scarce; Dalkey Sound.

Emarginula reticulata. Ditto.

Trochus granulatus. Rare; off the Bays of Dublin and Bray.
„ ziziphinus. General.
„ „ var. *lævis.* Dalkey Sound, &c.
„ „ var. *Lyonsii.* Ditto.
„ cinerarius. Common.
„ „ var. —— ? Dalkey Sound.
„ umbilicatus. General.
„ Magus. Dalkey Sound.
* „ exiguus. Very rare; Dublin Bay.
„ Montagui. Dalkey Sound and Killiney Bay.
„ tumidus. Dalkey Sound, &c.
Phasianella pulla. Not uncommon.
Littorina littorea. Common.
„ rudis. Ditto.
„ „ var. *zonaria.* General.
„ tenebrosa. General.
„ littoralis. Common.
Lacuna pallidula. Rare; Killiney, &c.
„ puteolus. Ditto.
„ vincta. General.
„ „ var. *quadrifasciata.* General.
Rissoa costata. Not common.
„ striata. Common.
„ inconspicua. General.
* „ labiosa. Rare; Dublin Bay.
„ parva. Common.
„ Ulvæ. Ditto.
Turritella communis. Common.
„ „ var. *nivea.* Killiney Bay.
Aporrhais pes-pelicani.
Cerithium reticulatum. General.
*Scalaria communis. South Bull, &c.
* „ Turtonis. Rare; Merrion, &c.
Eulima polita. Rare; off Dublin Bay and Dalkey Sound.
*Chemnitzia elegantissima. Strands of Portmarnock, North Bull, &c., and Dalkey Sound.
* „ rufa. Rare; Portmarnock Strand, &c.
Natica monilifera and nitida. General.
Velutina lævigata. Not uncommon.
Lamellaria perspicua and tentaculata. Rare; Dublin Bay.
Murex erinaceus. General.

Purpura lapillus. Common.
Nassa incrassata and reticulata. General.
Buccinum undatum. Common.
Fusus antiquus. Common.
„ Islandicus. Not common.
„ propinquus. Rare; off Dublin Bay.
Trophon muricatus. Strands of Merrion, Sandy Mount, &c.; and dredged in Dalkey Sound and off Dublin Bay.
„ Barvicensis. Very rare; Dalkey Sound.
* „ clathratus. Off Dublin Bay.
Mangelia costata. General.
„ linearis. Not uncommon; Dalkey Sound, &c.
„ nebula. Scarce; Dublin Bay.
„ rufa. Ditto.
„ septangularis. Rare; off Dublin Bay.
„ glacialis. Ditto.
„ turricula. Off Dublin Bay.
Cypræa Europæa. Common.
Cylichna cylindracea. Rare; Dalkey Sound.
„ obtusa. Dublin Bay.
Tornatella fasciata. Dalkey Sound, &c.
Scaphander lignarius. Off the bays of Dublin, Killiney and Bray.
Philine aperta. Not uncommon.
„ catena. Very rare; Dalkey Sound.
„ scabra. Rare; Dalkey Sound.
Aplysia hybrida. Rare; Dalkey Sound.

WILLIAM WHITE WALPOLE.

Windsor Lodge, Monkstown,
Co. Dublin, September 27, 1853.

Note on the occurrence of Caprella lævis in the Moray Firth.—Recently as I have sent you a list of Crustaceans found in the Moray Firth, there have already been a few additions made to it: the Caprella lævis is one of them. I take this opportunity of recording the habits of this animal, as observed by Mr. G. Murray, at Burghead; and this I could not do better than by quoting at length his letter to me on the subject:—"I sent to you last week a strange-looking Crustacean, discovered near low-water mark of a spring tide. I was prying under a huge stone in quest of Nudibranchs, when, amidst the Zoophytes with which its surface was thickly covered, I observed something performing a series of movements that denoted vitality, and that of the most active kind. Attached by its lower extremity, and having its long slender body entirely free, the creature bent itself into the form of an irregular hoop, bringing its head into contact with its feet, and, after tugging for a few seconds at something that appeared to offer a formidable resistance, it erected itself with a sudden jerk and a nodding motion of two horn-like processes on its head, at the same time vigorously plying two strong-looking limbs on the upper part of its body. After watching it for some time, and seeing it frequently repeat these movements with the greatest energy, I managed to secure it, and found that the object on which it had been bestowing so much attention was a small Rissoa. With what design the tiny mollusk was thus treated I am unable to state; but, as it appeared to be uninjured, I think it probable that it was itself the tormentor, and that the Crustacean wanted to get rid of it. Whatever the creature may be, it does not seem to be very rare, as I have since found other four. I have sent you that first obtained, which is by far the largest. I shall be glad to learn the name of it, and any other particulars you may be disposed to communicate. Its griffin-like appearance, fiery eye, strange movements, and immense activity, would be terrific in a large animal. I have been much interested in observing it. After bringing it home, I put it into a bottle of sea-water containing some twigs of Sertularia argentea. I then found that it has two modes of progression: the first is similar to that of the Hydra, with which doubtless you are familiar, I mean that particular style in which the head always takes the lead; by this method it clambered over the zoophyte with surprising agility. The other is a swimming movement, effected by drawing up the feet towards the head, and then striking them out; this is done rapidly, but the process is slow and awkward." This was communicated to me by Mr. Murray in May last.—*G. Gordon; Birnie, by Elgin, N. B., October* 7, 1853.

Note on the occurrence of Sphinx Convolvuli at Bridgwater.—About two weeks ago I took in my garden, near Bridgwater, a fine specimen of the Convolvulus hawk-moth (*Sphinx Convolvuli*). This insect is, I believe, rare everywhere in Britain; it is so rare in this part of the country, that the only other specimen I remember to have heard of, is one taken by me more than twenty years ago, in a court-yard in Bridgwater.—*Thomas Clark; Halesleigh, October* 10, 1853.

[This insect was most abundant in England in 1846, and captures of hundreds of specimens were recorded in the 'Zoologist' for that year.—*E. N.*]

Larva of Acherontia Atropos feeding on the Tuber of the Potato. — The larvæ of the death's-head moth (*Acherontia Atropos*) have been unusually plentiful in our neighbourhood this summer. This larva appears to prefer for its food the tuber of the potato rather than the leaves; indeed, a friend of mine tells me he could never get it to eat the leaves, but meeting with one lately which, like the rest, refused the leaves, it occurred to him to offer it slices of the tuber, when the creature instantly seized them, and fed voraciously.—*Id.*

The Larva of Cerula Vinula using Fragments of Potato in its Cocoon.—An instance of the ability which caterpillars possess of forming their cocoons of a material foreign to their usual habits, occurred to my friend at the same time. He had a full-grown larva of the puss-moth (*Cerura Vinula*), which was placed in a glass vessel with slices of potato, and with these it formed a cocoon as complete and beautiful as it could have done with the material it usually employs, the willow-wood.—*Id.*

Occurrence of the Rosy Feather Star (Comatula rosacea) *&c. at Weymouth.* — On Saturday, the 3rd of this month, my dredgers brought me a specimen of the rosy feather star (*Comatula rosacea*). I carefully compared it with Forbes's description, and was not surprised at finding I had nothing to add. Mine had but seven arms, and the colour consisted of blotches of reddish brown and of white. It was caught attached to a stone, which was dredged in Weymouth Bay; I did not disturb it, as I had to send it to the Zoological Society, in whose vivarium at the Regent's Park it now is. I have also heard of their having been caught off the Devonshire coast. Among the many rarities which the Society have lately placed in their vivarium, may be mentioned Müller's top-knot, Jago's goldsinny, and the cork-wing, all from Weymouth.—*William Thompson; Weymouth, September* 7, 1853.

Proceedings of the Entomological Society.

October 3, 1853.—Edward Newman, Esq., President, in the chair.

The following donations were announced, and thanks ordered to be given to the donors: — The 'Zoologist' for October; by the Editor. The 'Athenæum' for September; by the Editor. The 'Literary Gazette' for September; by the Editor. The 'Journal of the Society of Arts' for September; by the Society. Hewitson's 'Exotic Butterflies,' part 8; by W. W. Saunders, Esq. 'Entomologische Zeitung,' June to September; by the Entomological Society of Stettin. 'Versuch die Europäischen Spanner von J. Lederer,' Wein, 1853, and 'Lepidoptera Microptera quæ J. A. Wahlberg in Caffrorum terra collegit, descripsit P. C. Zeller,' Stockholm, 1853; by Professor Zeller, Hon. M.E.S. 'Proceedings of the Berwickshire Naturalists' Club,' 1852; by the Club.

Dr. Lankester exhibited some of the "flies" recorded in the public papers to have appeared in vast numbers at Newcastle during the prevalence of the cholera in that town last month: and read the following extract from a letter written by a gentleman residing at Newcastle, respecting them: —

"They appeared some days before the cholera broke out with such virulence. For many days we had a dense heavy atmosphere, very depressing to the spirits; and the flies came in such swarms as only to be compared to the time when God filled the land of Egypt with a grievous swarm of flies. They appear to be only creatures of a day, those of yesterday die off and are replaced by others, and in the morning I find thousands of them dead."

On examination by the President, these "flies" were found to be Aphides, of two or three species,* which feed on a great variety of plants. These Aphides have no local connexion with Newcastle; but at this season of the year the usual migration of the winged females occurs, often in immense swarms. The hot, moist, stagnant atmosphere, observed to be concomitant with the appearance of cholera, would probably favour their development, and would certainly cause them to be more noticed; for such frail creatures could not move about in windy weather.

---

* Mr. Walker has since pronounced them to be mostly Aphis Rumicis.

Mr. Saunders observed that vast numbers of Diptera were seen in India on hot, damp mornings, locally termed "cholera-weather:" and Mr. Baly added that in Warwickshire, in 1849, during the prevalence of the cholera, the people had noticed great swarms of flies called "cholera-flies." Of what kind they were he did not know; but neither in these, nor in the present appearance, could it be imagined there was any connexion between them and the disease.

Mr. Foxcroft sent for exhibition two boxes of his captures of insects of all Orders in Perthshire.

Mr. Edwin Shepherd exhibited a hermaphrodite Alcis consortaria, in which the right side was female.

Mr. Smith exhibited specimens of many rare Hymenoptera, taken at Southend; and a living specimen of the male of the parasitic Anthophorabia nitida, now eleven days old, although it had been stated by Mr. Newport, that it did not live more than eighteen hours. Mr. S. stated that he should make a further communication respecting this insect at the next meeting.

Mr. Ingpen sent for exhibition leaves of Chrysanthemums, greatly infested with Dipterous mining larvæ, which first disfigured and eventually destroyed them; but never to such an extent as during the present season. These larvæ were a second brood, the former having ceased their devastations two months ago. They are probably the larvæ of Tephritis Onopordinis and Artemisiæ, on which there is an article by Mr. Westwood, in Loudon's 'Gardener's Magazine' for 1839.

Mr. W. W. Saunders exhibited specimens of a Xylocopa from Port Natal, with its nest, consisting of several chambers formed in a reed: also a mud nest of a species of Pelopæus, which contained five living pupæ when he received it, but they had all produced only parasitic Crypti.

Mr. S. Stevens exhibited a collection of insects, of several Orders, just received from Mr. Bates, collected in the region of the Amazon, including many small Coleoptera, most of which were probably new.

Mr. Hemmings sent for exhibition Asopia nemoralis, *Scop.*, taken June 26th, at Holm Bush, near Henfield, Sussex, and Choreutes vibrana, *Hub.*, taken September 11th, near Hurst, Sussex; both being new British species: also Phibalapteryx gemmaria, taken at Hurst, September 11th, and Coleophora binotapennella,—a fine specimen, showing the characteristic markings,—taken at Brighton in August.

Mr. Douglas exhibited specimens of Gelechia instabilella, bred from Chenopodium maritimum, gathered at Brighton in August.

The President read the following note by J. Walter Lea, Esq., communicated in a letter from A. R. Hogan, Esq.

"*Parasitic (?) Moth found in the Pupa of Lasiocampa Trifolii.*—In the course of the early summer of 1848, I found a caterpillar of Lasiocampa Trifolii in the vicinity of Oxford, which throve satisfactorily, and in due time entered the pupa state, having formed its cocoon in the regular compact oval form peculiar to it. Instead, however, of the imago appearing, as it should have done, in July or August, it continued in the pupa state the whole of the summer, autumn, and winter of that year, and also through the spring and summer of 1849. I then thought it must be dead, and opened the cocoon to ascertain the fact, when I found it not only alive, but quite lively, and apparently in perfect health. Having carefully closed the cocoon, I replaced it in the box where I was preserving it, and looked at it from time to time during the autumn and early winter of the same year, always finding it alive and lively, and very carefully closing the cocoon and box after each examination, so that no mischief should happen to it. In the beginning of 1850, the pupa ceased to show signs of life when examined and handled, but not knowing what to make of it, I took redoubled care of it, and kept it by me all through the summer and autumn of the year; but towards Christmas, being persuaded that it must be really dead, I at last resolved to open it, which I did; and the first thing that I saw on making an opening in the puparium, was the head and eyes of a small moth, moving about rapidly, and in the most lively manner. A few moments sufficed to exhume the little creature, which was about the size and had very much the general appearance of Margaritia hyalinalis. It was very lively, and walked quickly about the table, moving its antennæ in all directions. The wings were all shrivelled and crumpled together, so that I could make but very little of them, nor did they in the least expand with exercise. The inside of the puparium of the Lasiocampa Trifolii was filled with a dry pale powder, and I could find no trace of any cocoon, or vestige of any kind, of the moth which I had just extracted from it. There was no evidence to show how long it had been there; and as it was manifestly far too small and feeble to make any opening in its prison by its own efforts, it must have remained there until it died, had I not opportunely set it free. It did not occupy more than one-sixth of the interior of the puparium, and lay in a reversed position, with the apex of the abdomen in the place of the head of the proper occupant. It was quite unable to turn itself round inside the case, as it was too long, and also the whole space which it did not fill, was well filled with the dry powder above mentioned. A rigid examination showed no opening in the puparium through which anything could have entered; and indeed the pupa had been too carefully preserved to be within the reach of accident or enemies. Most unfortunately, before I had completed my investigations, I was suddenly called away, and in my absence the whole was swept away and destroyed by a servant. I took no memorandum of it at the time, being exceedingly busy, but I have the clearest recollection of the circumstances, and can answer for the facts being in every particular correct. I cannot explain the matter, and should be very glad of any light that can be thrown upon it. — *J. Walter Lea*; *Ramsgate, September* 7, 1853."

The President called the attention of the Society to three different subjects, as under; requesting observations from the members present.

1. *Bees destroyed by Toads.*—"A friend has lately communicated to me a fact relative to bees, which, having mentioned to my highly esteemed and venerable friend, Dr. Bevan, and having been recommended by that distinguished apiarian to make it public, I beg to submit to the Society. My friend relates, that a stock of bees was observed to grow weaker day by day, until at last it became so pauperized that the hive was removed, and the bees turned adrift to shift for themselves: nothing amiss was detected in the interior of the hive. A second stock shortly afterwards exhibited similar symptoms of depopulation; and a suspicion was entertained that some nocturnal depredator entered the hive at night and devoured the bees. About two hours after dark, the hive was visited with a view to an inspection of the interior; but on arriving at the spot with a lantern, the owner found a large toad squatted on the alighting-board, and looking about him with bright and animated eyes. Presently, a night-roving bee returned home; there was a sudden movement on the part of the toad, and

the bee vanished. A long interval of patient watching ensued, when a second bee came home, a similar movement of the toad followed, and the bee again vanished: but the light of the lantern being this time thrown full upon him, he was distinctly observed to swallow. The toad was caught and killed, and eight still living bees were taken from his stomach. I attempt no explanation of the mode in which the toad attained his station at the entrance of the hive, or what antidote he possessed against the poison so likely to be conveyed by the stings of the bees; all I can do is to vouch for the veracity of my informant, which I do without any hesitation."

Mr. Weir, in reply to an observation made as to the difficulty of a toad's climbing, stated that he knew an instance in which a toad had climbed up an open door, and seated himself on the top.

2. *Oniscus Armadillo.* — "Finding this milleped extremely injurious to ferns and Lycopodiums, I have paid some little attention to its habits, with a view to arresting its increase. In pursuing this object, I have made a few observations that appear to me of some interest. *In the first place*, the female is strictly viviparous, and the young are perfectly developed while still in the ovary of the female: they are from sixteen to twenty-two in number, and after birth attach themselves to the legs of their parent, and are carried about by her. I found them first in this position; afterwards I observed the female in the act of parturition; and, lastly, I killed several females which appeared gravid, and found the young apparently ready for extrusion.* *In the second place* I find that the young, although possessing perfectly developed organs of locomotion, manducation, &c., have not the configuration of the adult: the second segment (? cephalothorax) being proportionately larger, and bearing the eyes, which are situated near its exterior margin. *Thirdly*, the similarity of these minute millepeds to the extinct trilobites, particularly to the genus Asaphus, is most striking, especially in the figure of the enlarged second segment, and the position of the eyes, which are elongate, linear, very distant, and have a reflexed external margin. The difference between the infant and adult Oniscus Armadillo, and the similarity of the infant O. Armadillo to a trilobite, would almost induce the conclusion that the trilobites were a lower form of Isopod Crustacea, rather than allies of Limulus and cognate genera. This similarity to a trilobite, is equally apparent whether the milleped be extended or rolled into a ball."

3. *Typhlocyba Filicum.* — "I beg to exhibit, under the provisional name of Typhlocyba Filicum, a minute Hemipterous insect, which a good deal resembles the Typhlocyba Ulmi of Germar, Walker, and other entomologists, but which seems to me to be specifically distinct. The anterior wings are bright yellow to rather below the middle, the apical portion transparent, irrorated with black; the head is yellow-green, with prominent black eyes; the prothorax is also yellow-green; the scutellum is an equilateral triangle, and yellowish green; the abdomen is intensely black, with the extreme margin of each segment yellow, thus giving it a distinctly annulated appearance. My object in desiring to attract the attention of the Society to this little creature, is to point out the excessive injury which it commits in ferneries. To ferns in a wild state it is highly injurious, often changing their delicate green

---

* Some of these were exhibited.

colour to a sickly yellow or whitey-brown; but its introduction into a glazed house in which ferns are cultivated, is quite fatal to the beauty of their appearance. It inserts its short, strong, and acute rostrum into the parenchyma of the frond, and remains for days in one position, apparently engaged during the whole time in extracting the sap, after the manner of an Aphis. The result of this abstraction of the juices of the plant is not, as in the case of the Aphis, a distortion of the leaf, but the production of whitish or yellowish spots or blotches, which increase in number and size until the entire frond is permanently although not uniformly discoloured. The injury is committed by the insect in all its stages; but as its growth to maturity is extremely rapid, and as its life in the imago state is usually prolonged, it follows that the injury caused by the insect in its perfect, is much greater than that in its preparatory states. It is worthy of remark, that all the species of ferns are not equally obnoxious to its attacks; for of our English ferns, Osmunda regalis and Asplenium lanceolatum are rarely touched; Lastrea Filix-mas, L. spinosa, L. uliginosa, L. multiflora and L. rigida are greatly injured; and Asplenium Adiantum-nigrum and Polypodium vulgare are sometimes absolutely killed. When disturbed, the insect leaps off the frond after the usual manner of the Cercopidæ; but when once committed to the air, it flies about, and even hovers, with all the facility of a Musca. The smoke of tobacco, if the greenhouse can be sufficiently closed, is fatal; but there is a great deal of difficulty in applying it effectually in a large or imperfectly closed house. The nuisance may also be in some degree abated, by burning the fronds in autumn, and thus, in all probability, destroying the eggs."

Read, a "Description of a new Species of Lithocolletis,—L. irradiella." By John Scott, Esq. It is very like L. lautella, but the anterior wings are darker, the streaks more slender, and the spot at the anal angle not on the inner margin. The specimen from which the description was made, was taken in July, in a damp wood near Renfrew, and was exhibited to the meeting.

Read the following extracts from a letter to the Secretary, by the Rev. Joseph Greene, of Wendover:—

"No genus of moths that I am acquainted with is so subject to Ichneumons as Notodonta. Of N. camelina, I should say seven in every ten are pierced. I found five of N. trepida this year, four were pierced; and the same with N. zic-zac, which is common here in the larva state. N. dictæa and dictæoides are apparently more fortunate."

"The singular epidemic of muscardine? exists to a great extent among larvæ this year, arising, I imagine, from the extreme dampness of the season. The characteristics of the disease are, that when the larva is fully grown, it suddenly, and without the slightest apparent premonitory symptom, becomes stiff and rigid, with the fore part of the body extended, and in a short time dries up. I have found it in zic-zac, Coryli, antiqua, angularia, &c. My house being unfortunately very damp, I should not have thought much of this circumstance, but it has, I believe, been noticed by others."

The President drew the attention of the Meeting to the Rev. J. F. Dawson's prospectus of his 'Monograph of the British Geodephaga,' recommending the proposed work as worthy of their support, and stating that unless a sufficient number of subscribers was obtained, it would not appear.—*J. W. D.*

7 NO 53

TO SUBSCRIBERS AND THE BOOK TRADE.

1. The press of matter renders it absolutely necessary to publish a double number on the 1st of December. This will include the Preface, Title, and Index for 1853, and will be charged *Two Shillings*.
2. Authors and booksellers are particularly requested to observe, that every book on Zoology sent before the 20th of the month, will receive a gratuitous advertisement in the body of this work; the price, size, number of pages, number of plates, publisher's name and address, and date, being carefully given: and a summary of the contents, or an extract from the Preface explanatory of the author's views will generally be added.

CONTENTS.

NOTICES OF NEW BOOKS.—Gosse's 'A Naturalist's Rambles on the Devonshire Coast,' 4081. 'The Annals and Magazine of Natural History' for October, 4088. The 'Transactions of the Linnean Society of London,' Vol. XXI. Parts 1 and 2, 4088. Adams's 'Shells and their Inhabitants,' Part VI., 4090. 'The Powers of the Creator displayed in the Creation,' by Sir John Graham Dalyell, Knight and Bart., Vol. II., 4090.

BIRDS.—Migratory Birds in the Isle of Wight, *A. G. More, Esq.*, 4094. Occurrence of Montagu's Harrier in Woolwich Marshes, *James Green, Esq.*, 4094. Correction of an Error in a Note on the Grasshopper Warbler, *H. Stevenson, Esq.*, 4095. Note on the Nesting of the Reed-wren, *Rev. Alfred Charles Smith*, 4095. Occurrence of the Nutcracker at Yarmouth, *James Green, Esq.*, 4096. Note on the occurrence in Sweden of Pluvianus Ægyptius, *J. H. Gurney, Esq.*, 4096. Occurrence of the Red-necked Phalarope at Rottingdean, *Arthur Hussey, Esq.*, 4096.

REPTILES.—Note on the Spawning of Frogs and Toads, *H. Harpur Crewe, Esq.*, 4097. Note on Toads devouring Hive Bees, *H. W. Newman, Esq.*, 4097.

FISHES.—Description of a Specimen of the Lesser Forked Beard; with an Announcement of the Occurrence of that and two other rare British Fishes at Weymouth, *Wm. Thompson, Esq.*, 4097. Further Note on Tench and Pike, *W. H. Slaney, Esq.*, 4100. Note on a Variety of the Plaice, *Rev. Geo. Gordon*, 4100.

MOLLUSKS.—Catalogue of Marine Mollusca inhabiting the Dublin Coast, *Wm. White Walpole, Esq.*, 4101.

CRUSTACEA.—Note on the occurrence of Caprella lævis in the Moray Firth, *Rev. Geo. Gordon*, 4106.

INSECTS.—Note on the occurrence of Sphinx Convolvuli at Bridgwater; Larva of Acherontia Atropos feeding on the Tuber of the Potato; The Larva of Cerura Vinula using Fragments of Potato in its Cocoon, *Thomas Clark, Esq.*, 4107.

RADIATA.—Occurrence of the Rosy Feather Star &c. at Weymoth, *Wm. Thompson, Esq.*, 4108.

PROCEEDINGS OF SOCIETIES.—Entomological Society, 4108.

To Contributors.—Communications have been received from the following gentlemen:— H. W. Bates, Esq., J. H. Gurney, Esq., Rev. George Harris, H. W. Newman, Esq., Alfred Merle Norman, Esq., Octavius Pickard-Cambridge, Esq., Edward Hearle Rodd, Esq. (2), William Thompson, Esq. Some of the above are in type, but are unavoidably postponed.

RARE BRITISH COLEOPTERA.

MR. PETER BOUCHARD, of No. 11, Minerva Street, Hackney Road, begs to announce that he has some remarkably fine and beautiful Specimens of Hypera tigrina for sale, at 1s. each; and of Lixus bicolor at 1s. 6d. the pair.

E. NEWMAN, PRINTER, 9, DEVONSHIRE ST., BISHOPSGATE.